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222

07/26/90

☐ This application has been examined ☒ Responsive to communication filed on 12/15/89 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 6 month(s), days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-39 are pending in the application.
Of the above, claims are withdrawn from consideration.
2. ☐ Claims have been cancelled.
3. ☐ Claims are allowed.
4. ☒ Claims 1-4, 10, 15, 17, 20-24, 30, 35 and 37 are rejected.
5. ☒ Claims 5-9, 11-14, 16, 18-19, 25-29, 31-34, 36 and 38-39 are objected to.
6. ☐ Claims are subject to restriction or election requirement.
7. ☐ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on . Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on , has been ☐ approved. ☐ disapproved (see explanation).
12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. ; filed on .
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

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EXAMINER'S ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4, 15, 20-24 and 35 are rejected under 35 U.S.C. 103 as being unpatentable over Gendreu or Rawicz in view of Golinsky (all previously cited in parent application 07/008,432).

Both Gendrea and Rawicz relate to tracking systems that include means for generating model data; Gendreu with simulating circuits #17 and Rawicz with position computing apparatus #22. Both references collect actual flight path data. Gendreu with a radar and Rawicz with sensor #10. Both generate an error measurement, Gendreu with tracking unit #5 and Rawicz with mixer #12. Both adjust the model data to reduce the error with loop feedback paths. Both calculate range at the output of the model data generator.

6B)
638) The difference between the instant claims and Gendreu or Rawicz ^{is} ~~is~~ that the prior art patents utilize active means for collecting actual flight data while the instant claims recite a passive method or means. Further, claims 15 and 35 differ from Gendreu or Rawicz in providing for adjustment of flight path of the monitoring plane.

6B) The Golinsky patent teaches a passive system of ranging for the advantage of avoiding detection by third parties ⁱⁿ ~~in~~ the target plane, col. 1, lines 27-32. The patent further teaches that the monitoring plane's flight path is adjusted to provide better ranging performance, col. 6, lines 31-69.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use passive means as taught in Golinsky instead of the active means disclosed by Gendreu or Rawicz for collecting actual flight data in order to avoid detection by third parties or the target plane. Further obvious to modify Gendreu or Rawicz to include adjustment

of the monitoring plane's flight path as taught in Golinsky in order to improve the ranging determination.

3. Claims 17 and 37 are rejected under 35 U.S.C. 103 as being unpatentable over Gendreu or Rawicz in view of Galinski as applied to claims 1-4, 15, 20-24 and 35 above, and further in view of Fukuhara et al.

The instant claims differ from Gendreu or Rawicz in view of Golinsky in further providing for "generating an initial model data".

The patent to Fukuhara et al teaches generating initial model data in the analogous art of passive position measuring systems, col. 1.

638 It would have been obvious to one of ordinary skill in the art at the time the invention was made to include means for generating initial model data for the ranging systems of Gendreu and Rawicz as the Fukuhara patent teaches that an initial estimate of model data is necessary in ~~the~~^a convergent computing process of position determination.

4. Claims 10 and 30 are rejected under 35 U.S.C. 103 as being unpatentable over Gendreu or Rawicz in view of Newell et al and Golinsky.

638 The difference^s between the instant claims and the Gendreu and Rawicz prior art are the passive collecting of actual flight data and the calculating of a perturbation model.

Golinsky teaches that a passive ranging system is advantageous over active systems if it is desired not to be detected by third parties or by the target plane itself.

Newell et al teaches a target course prediction system using a perturbation model to smooth out computer positional quantities for avoiding amplified noise errors; col. 5, line 54 thru col. 8, line 52.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to calculate a perturbation model as taught in Newell et al with the range determination process of Gendreu and/or Rawicz in order to smooth out the model data to reduce error.

Further obvious to collect actual flight path data with passive means as taught in Golinsky for the active means in Gendreu or Rawicz in order to avoid detection by third parties or the target plane.

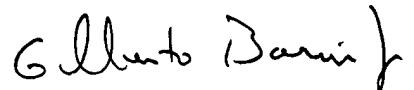
5. Claims 5-9, 11-14, 18-19, 25-29, 31-34, 36 and 38-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. THIS ACTION IS MADE FINAL, even though it is a first action, MPEP 706.07(b).

7. This communicate is from the examiner assigned to the case, Gilberto Barron Jr. at (703)557-1955.

Barron/ajh-6

07-20-90



GILBERTO BARRÓN, JR.
EXAMINER
ART UNIT 222